80/245/RVC

RESULT OF VOTING ON CDV

Project number: Joint ISO/IEC 11674	Reference number of the CDV **80/219/CDV**
IEC/TC or SC 80	Date of circulation 1999-10-22

Title of the TC or SC concerned
MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS

Title of the committee draft:
Ships and marine technology - Heading control systems

The above-mentioned document was circulated to National Committees with a request that voting take place for approval for circulation as an FDIS (or publication as a Technical Specification or Report)

Voting results

see printout attached

Comments received – see annex[1]

In the case that the approval criteria for acceptance have been met,

a ☒ The committee draft for vote (CDV) will be registered as an FDIS by (date) 1999-12

DECISION OF THE CHAIRMAN (in cooperation with the secretariat), in the case that the approval criteria for acceptance have not been met or in the case of a draft Technical Specification or Report

b ☐ The committee draft for vote (CDV) will be published as a Technical Specification or Report by (date) ……

c ☐ A revised committee draft will be circulated as a committee draft for vote (CDV) by (date) ……

d ☐ A revised committee draft will be circulated for comment by (date) ……

e ☐ The committee draft and comments will be discussed at the next meeting (date) ……

NOTE — In the case of a proposal *b*, *c* or *d* made by the chairman, P-members objecting to such a proposal shall inform the Central Office with copy to the secretary in writing within 2 months of the circulation of this compilation (see ISO/IEC Directives, Part 1, 2.6.5).

Name or signature of the Secretary	Name or signature of the Chairman
Mr. P. Griffiths (1999-10-09)	Dr. A.P. Norris

The compilation of comments attached has been prepared by Mr. S Arikawa, secretary of ISO/TC8/SC6. It is circulated at the request of Mr. P. Griffiths, secretary of IEC/TC80.

[1] to be collated on Form 8C and annexed.

Result of Voting on CDV - Document 80/219/CDV

Project: ISO/IEC 11674 Ed.1

Ships and marine technology - Heading control systems

Circulation Date: 1998-12-11
Closing Date: 1999-05-17

Country	Status	Sent	Received	Vote	Comments
Belgium	P	1999-05-12	1999-05-12	Y	-
China	P	1999-05-14	1999-05-14	Y	Y
Denmark	P	1999-05-11	1999-05-11	A	-
Finland	P	1999-05-17	1999-05-17	Y	Y
France	P	1999-05-10	1999-05-10	Y	-
Germany	P	1999-05-05	1999-05-05	Y	-
Greece	O	1999-05-11	1999-05-14	Y	-
Italy	P	1999-05-14	1999-05-14	Y	-
Japan	P	1999-05-17	1999-05-17	Y	Y
Netherlands	P	1999-05-17	1999-05-17	Y	-
Norway	P	1999-05-04	1999-05-04	Y	Y
Portugal	-	1999-05-14	1999-05-14	A	-
Romania	P	1999-05-17	1999-05-17	Y	-
Russian Fed.	P	1999-03-24	1999-04-06	Y	-
Sweden	P	1999-05-17	1999-05-17	Y	-
U.S.A.	P	1999-04-30	1999-04-30	Y	-
United Kingdom	P	1999-04-21	1999-04-21	Y	-

		Approval Criteria	Result
P-members voting: 14			
P-members in favour: 14 = 100 %		**>= 67%**	**APPROVED**
Total votes cast: 15	**Total against: 0 = 0 %**	**<= 25%**	**APPROVED**
Final Decision:			**APPROVED**

NOTES

1 Vote: Does the National Committee agree to the circulation of the draft as a FDIS:
Y = In favour; N = Against; A = Abstention.

2 Only votes received before the closing date are counted in determining the decision.
Late Votes: (0).

3 Abstentions are not taken into account when totalizing the votes.

4 P-members not voting: Egypt; (1).

REPORT OF VOTING/ANNEX B
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Ships and marine technology - Heading control systems

Date 1999-09-07	ISO DIS /IEC CDV 11674
Secretariat JISC/JMSA	ISO/TC 8 /SC 6

Member body	**COMMENTS** Comments shall be reproduced as received either by re-typing them, or directly by pasting them on this form	**OBSERVATIONS OF THE SECRETARIAT** on each comment submitted
Japan	Swap **3.1** and **3.2**. **Reason** : Define heading first because it is used in the terms.	**Accepted.**
Japan	Subclause **3.1** Preset heading Change the title to read " preset heading ". **Reason** : Editorial.	**Accepted.**
Italy	Item **3.2** (Heading) : Suggest to modify the definition from "expressed in angular units" to "expressed in degrees" (in order to avoid "strange" units like "radians")	**Accepted.** Subclause **3.1**, having a similar expression, should also be amended similarly, in line with the amendment of subclause **3.2**.
Japan	Subclause **3.8** Operational device Change the title to read " operational device ". **Reason** : Editorial.	**Accepted.**
Japan	Put **3.9**, **3.10**, **3.11**, **3.12** before **3.7**. **Reason** : **3.7** uses terms of **3.9**, **3.10**, **3.11**, and **3.12** before they are defined.	**Accepted.**
Japan	The following sentence should be added to "**3.7** adjustment control" and "**3.10** derivative rudder adjustment" as its **NOTE**. **NOTE** The term "derivative rudder adjustment" is also called "counter rudder adjustment" customarily. **Reason**: The term "derivative rudder" is not the one commonly accepted. In lieu of it, many makers use the term "counter rudder".	**Accepted.**
Japan	Subclause **4.2** Constituents In 1st line, change " ~ following ~~devices~~ " to " ~ following components ". **Reason** : Functions or components may be located in one or more devices. The term "component" is more general.	**Accepted.** The title of Figure 1 should also be amended, in line with the amendment to subclause **4.2**.

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Date	ISO DIS/IEC CDV 11674
1999-09-07	
Secretariat	ISO/TC 8 /SC 6
JISC/JMSA	

Member body	COMMENTS	OBSERVATIONS OF THE SECRETARIAT
Japan (IEC/TC 80)	Subclause 4.2 **COMMENT :** Add word – "A heading control system shall be composed, as a minimum, of the following devices (see figure 1 as example): **Proposed change :** Add "...as example"	**Partly Accepted.** Although there is no problem in adding "An example of", the title of Figure 1 has become "Control components for heading control system", owing to the adoption of the Japanese comments of SC 6 as stated above. If "An example of" is added to the title, then "control components" might, it is feared, be interpreted as being ones which might be accepted inciscriminately. Therefore, in order to avoid such an interpretation, the title of Figure 1 is amended to read "Typical block diagram for heading control system".
Japan	Subclause 4.3.1.5 Replace " ~near the change-over ~~control~~. " by " ~near the change-over device. " **Reason** : To be consistent with terminology used in **Figure 1.**	**Accepted.**
Japan	Subclause 4.3.5 Heading indication accuracy Replace " ~from the ~~compass heading~~ by more than 0,5° " by " ~from the heading sensor by more than 0,5° ". **Reason** : To be consistent with terminology used in **Figure 1.**	**Accepted.**
Japan	Subclause 4.3.7 Preset rate of turn, **NOTE** and 4.3.8 Preset turning radius, **NOTE** Replace " ~effects of weather or sea state." by "~effects of weather, sea state or ship's manoeuvrability." **Reason** : Various loading or trim conditions may lead different ship steering parameters.	**Accepted.**
Germany	Clause 4.3.10 Delete sentence. **Editorial Reason** : hanging clause, the same is said in 4.3.10.1.	**Accepted.**
Japan	Subclause 4.3.10 Power supply Delete completely except for the title. **Reason** : Covered completely by 4.3.10.1.	**Accepted.**

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Date 1999-09-07	ISO DIS/IEC CDV 11674
Secretariat JISC/JMSA	ISO/TC 8 /SC 6

Member body	COMMENTS	OBSERVATIONS OF THE SECRETARIAT
Japan	Insert a new subclause before **4.3.11.2** Off-heading alarm " **4.3.11.2** System failure An alarm both audible with mute function and visual shall be provided in order to indicate any malfunction of the heading control system. **NOTE**: The term "heading control system" used in this subclause is shown schematically in **Figure 1**." **Reason**: There may be failures other than power failures making the system inoperative. The phrase "any malfunction of the heading control system" might give rise to ambiguity in the scope of alarms, and cause confusion in the interpretation. Therefore, the NOTE should be added.	**Accepted.**
Japan	The following **NOTE** should be added to subclauses **4.3.11.2** "Off-heading alarm" and **4.3.11.3** "Heading monitor", respectively: "**NOTE**: The "preset limit" specified in the provisions means just an alarm threshold." **Reason**: The term "preset limit "specified in this subclause does not mean the "preset limit" in a strict sense, but just mean "alarm threshold".	**Accepted.**
Japan	Subclause **4.3.11.6** In 1st line, change " ~fitted near the place at which the ship is normally navigated, easily accessible and close the automatic steering device. " to " ~fitted near the conning position and easily accessible ~~and close the automatic steering device~~. ". **Reason** : Hardware of the automatic steering device may be located anywhere on the ship.	**Accepted.**
Japan	Subclause **4.3.11.6** Include **4.3.11.6** in **4.3.11**. **Reason** : **4.3.11.6** relates to all regulations of "ALARM".	**Accepted.**
Japan	Subclause **4.3.13** Heading stability This subclause is provided for the condition of "no disturbance". However, any test done under that condition is not for practical purposes. Therefore, on the occasion of the next amendment, the propriety of adding, to the standard, the provisions of tests under the conditions of disturbance should be discussed.	At the time of the next amendment, consideration will be given as to how to deal with this.

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Date	ISO DIS/IEC CDV 11674
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Member body	COMMENTS	OBSERVATIONS OF THE SECRETARIAT
Finland (IEC/TC 80)	Subclause **4.3.13** **COMMENTS :** We see that the textual content of chapter **4.3.13** originates from IEC workgroup (non italic text). We think that it is feasible to require stated performance, but that also other operation modes should be allowed, if an operation mode with required performance is also available. The above is because it is more economical to allow higher tolerance for example during ocean passages. From our point of view it should be enough that the Heading control system can meet required performance in a user selectable operation mode. However manufacturers and user should be able to select more fuel economic tolerence values for ocean passages. **Proposed change :** New text: The heading stability shall be such that, under conditions of no disturbance and suitable operation mode, the average value of difference between preset heading and the heading is within ±1° and the maximum single amplitude is within 1,5°.	**Not accepted.** **Reason :** For the following reasons, it was decided not to adopt the comments this time. ① These provisions are the requirements for fundamental "Heading stability". ② "Heading stability" in various operation modes will be considered, if various countries recognize its necessity, at the next amendment.
Japan (IEC/TC 80)	Subclause **4.3.15.3** **COMMENT :** Last line – add words "...IEC 61162 as applicable." **Proposed change :** Add "..as applicable."	**Accepted.**
Norway (IEC/TC 80)	Subclause **5.2, 5.3, 5.4, 5.5, 5.6, 5.7** **COMMENT :** The clauses are specifying tests that are all listed within the Standard of **IEC 60945**. It should therefore not be necessary to list each one in this standard. ISO/TC8/SC6, working group for night vision equipment, uses this way of addressing **IEC 60945**. **Proposed change :** Delete the clauses. Insert new clause **5.2**: "EMC and environmental testing shall be performed according to **IEC 60945**." Revise the rumbering of remaining clauses.	**Accepted.** However, in the proposed new subclause **5.2**, there is no statement about "compass safe distance". Therefore, the current text of subclause **5.2** is to be retained, and the proposed text is adopted as a new subclause **5.3**. The currert subclauses **5.3** to **5.7** are deleted. In accordance with this adoption, the text of the current subclause **5.2** will undergo some adjustment in its expression.

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Member body	COMMENTS	OBSERVATIONS OF THE SECRETARIAT
China (IEC/TC 80)	Subclause **5.3** **COMMNET :** "Salt fog test" and "mould test" should be added.	**Not accepted.** **Reason:** The comment is not accepted, because of the adoption of the comment by Norway (IEC/TC80) on subclause **5.2**.
Japan (IEC/TC 80)	Subslause **5.3** **COMMENT :** "**5.3** Environmental tests" – delete and add sentence : **5.3** Test method and required test results Otherwise state in this standard, the environmental and interference tests shall comply with **IEC** 60945. Delete all items from **5.3.1** to **5.3.4**	**Not accepted.** **Reason:** The comment is not accepted, because of the adoption of the comment by Norway (IEC/TC80) on subclause **5.2**.
Japan (IEC/TC 80)	Subclause **5.5** - **5.7** **COMMENT :** Delete items **5.5** – **5.7**. **Proposed change :** Delete **5.5** to **5.7** and renumber **5.8** as **5.5**.	**Not accepted.** **Reason:** The comment is not accepted, because of the adoption of the comment by Norway (IEC/TC80) on subclause **5.2**.
Japan	Subclause **5.9.1** Heading signal transformation accuracy Delete NOTE completely. **Reason** : The test should be performed anyway.	**Accepted.**
Japan	Subclause **5.9.2.2** Add the following NOTEs to the subclause. " NOTE 1: Horizontal acceleration $A = V_1$ does not exceed 1,0 m/s^2. NOTE 2: In this test, the rate of turn or the turning radius should be selected so that horizontal acceleration does not exceed 1,0 m/s^2."	**Accepted.**

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Member body	COMMENTS	OBSERVATIONS OF THE SECRETARIAT
Norway (IEC/TC 80)	Subclause **5.9.2.2** **COMMENT :** Ensure that the set rudder limit is automatically overridden in order to allow intentional course changes without requiring manual intervention. Motivation: A rudder angle limit cannot be set in relation to the rudder angle required for safe steering along a route consisting of both straight courses and radius turns. In order to reduce the risk of human error, it is imperative that the rudder limit does not limit the rudder angle required to perform an intentional course change, but is automatically overridden. If the adjustment is to be dealt with manually, the watch officer must adjust the rudder angle limit back and forth at every intentional course change. This will affect safety of bridge operations and safe navigation when following a route in narrow waters. **Proposed change :** Replace the last word in the first sentence "maximum" with "minimum".	**Not accepted.** **Reason:** With automatic course change, what to do with the rudder limit is not clear, when turning radius or rate of turn has been preset. The following two concepts are considered. ① The function of the rudder limit is effective in any case. ② With automatic course change, the rudder limit becomes the maximum, when turning radius or rate of turn is preset. ISO/DIS 11674 has been developed under concept①. After the ISO/IEC joint meeting held in March last year, this concept was inquired to an IEC/TC80 representative and it was confirmed by him that concept should be the right one. This was at an unofficial forum and no minute contains any reference to it. The interpretation of subclause 5.9.2.2 depends on which concept, or, is employed. • When concept① is employed As the rudder limit has priority in any situation, the turning at a preset turning radius becomes impossible, if the rudder limit smaller than the rudder angle necessary to perform a preset turning radius has been set. However, as the rudder angle beyond the rudder limit is not made in any situation, inadvertent excessively great angle steering is not made. • When concept② is employed With automatic course change, as the rudder limit is disengaged (i.e. the maximum angle becomes beyond the rudder limit.), turning at a preset turning radius becomes possible within the range of the manoeuvring characteristics. However, in some case, a great angle steering is applied at the time of initiating the turning depending on automatic steering device, and there would be a possibility of having a dangerous condition with rolling caused in accordance with the hull design. Therefore, from the aspect of safety, concept① is deemed to be suitable.

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Member body	COMMENTS	OBSERVATIONS OF THE SECRETARIAT
Japan	**5.9.3** Heading stability In the 1st line, change "~ANNEX A with I/v = 30. 10 minutes. after ~" to "~ANNEX A with I/v = 30. 10 minutes after ~". **Reason** : Editorial.	**Accepted.**
Japan	**5.9.4** Overshoot In 1st line, change " ~with I/v = 30, and change~" to "~with I/v = 30. Change~". Delete " ~~This shall be fulfilled in all modes of automatic steering.~~ ". **Reason** : Use of practical and defined parameters required. Test could be done simultaneously **5.9.3.**	**Accepted.**
Japan (IEC/TC 80)	**Figure 1** **COMMENT :** Change title to read "An example of control devices for heading control systems"	**Partly accepted.** Reference is made to the observation on the Japanese comments (IEC/TC80) on subclause **4.2.**
Italy	**Annex A** : Correct the formula $\frac{\dot{\psi}}{\delta}$ Instead of $\frac{\dot{\varphi}}{\delta}$	**Accepted.**
China	**Annex A** Suggest that the disturbance model and its grade be specified in **Annex A.**	**Not accepted.** **Reason:** Not accepted, for the reason that in this standard "disturbance" is not assumed. At the next amendment, "disturbance" will be considered.